(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 27 November 2003 (27.11.2003)

PCT

(10) International Publication Number WO 03/097674 A1

- (51) International Patent Classification⁷: C12N 15/867
- C07K 14/15,
- (21) International Application Number: PCT/DK03/00326
- (22) International Filing Date: 15 May 2003 (15.05.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

- (30) Priority Data: PA 2002 00767
- 17 May 2002 (17.05.2002) DK
- (71) Applicant (for all designated States except US): PIPELINE BIOTECH A/S [DK/DK]; Røvedvej 1, DK-8380 Trige (DK).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): PEDERSEN, Finn, Skou [DK/DK]; Præ stehaven 47, DK-8210 Århus V. (DK). DUCH, Mogens, Ryttergaard [DK/DK]; Elmevej 4, DK-8140 Risskov (DK). BAHRAMI, Shervin [DK/DK]; Vejlbytoften 3A, 8240 Risskov (DK).
- (74) Agent: PLOUGMANN & VINGTOFT A/S; Sundkrogsgade 9, P.O. Box 831, DK-2100 Copenhagen Ø (DK).

- (81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TI, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A PURIFIED POLYPEPTIDE, ISOLATED NUCLEIC ACIDS ENCODING SAID POLYPEPTIDE, VECTORS AND USE THEREOF

(57) Abstract: The present invention relates to a purified polypeptide, which is capable of mediating infection of a cell, by use of the polytropic/xenotropic receptor encoded by the Rmc1 locus from a NIH Swiss inbred NFS/N mouse for entry, and unable of mediating infection of a cell by use of a human polytropic/xenotropic receptor encoded by the human RMC1 locus. The present invention especially relates to an envelope protein from the Murine Leukaemia Virus (MLV) strain SL3-2, which is capable of infecting murine cells through usega of the polytropic receptor encoded by the Rmc1 locus, but lacks the ability of infecting human cells expressing the corresponding xenotropic receptor encoded by the RMC1 locus. The present invention furthermore demonstrate that replacements of at least one specified amino acid in the polypeptide can alter the tropism and enable the SL3-2 envelope to infect a human cell by use of the human polytropic/xenotropic receptor encoded by the RMC1 locus for entry.

70 03/097674 A1